

Work Order ID 53752

November 17, 2009 7:40:41 AM



Page 1

Item ID: D6104-007

Accept



Setup Start



Revision ID: B

Stop



Item Name: Round Billet, 17-4

Start Date: 11/17/09 Start Qty: 20.00



Cust Item ID:

Required Date: 12/01/09 Req'd Qty: 20.00



Customer:

Reference:

Run Start



Approvals: Process Plan: CL Date: 09/14/17 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
----------	--------------

D6104	Rev B
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100

0.00



PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O: - 10773 (a)Description: S.S round billet (b) Ø4.50" x 5.10" long (c) Tolerance on all dimensions are +0.030"/-0.000" (d) Material: 17-4PH Stainless steel (Ams 5643 or Aisi 630) (e)One blank makes 2 parts (f) Material certification required

CL 09/14/17 20

110

0.00



Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

0.00

Packaging

Ensure material certification is attached

Per 11/17/09 (20)

120

0.00



QC6- Inspect dimensions to drawing

QC

Memo

0.00

Quality Control

Ensure Material certification comply to Dwg D6104

09/12/01 20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53752

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Item ID: D6104-007

Accept

Revision ID: B

Item Name: Round Billet, 17-4

Start Date: 11/17/09 Start Qty: 20.00

Required Date: 12/01/09 Req'd Qty: 20.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location: MAT

0.00



Packaging

Memo

0.00

Packaging

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/12/01 *[Signature]*
B1 0912-1
(20)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 17, 2009 7:40:41 AM

Page 1

Work Order ID: 53752

Parent Item: D6104-007RevB

Parent Item Name: Round Billet, 17-4


Comments:

Start Date: 11/17/09

Required Date: 12/01/09

Start Qty: 20.00

Required Qty: 20.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6104-007PRevB		Purchased	No			110	Each	0.0000	20.0000			
												
17-4 SS Roundbar 4.50"OD												

mf 09-11-30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

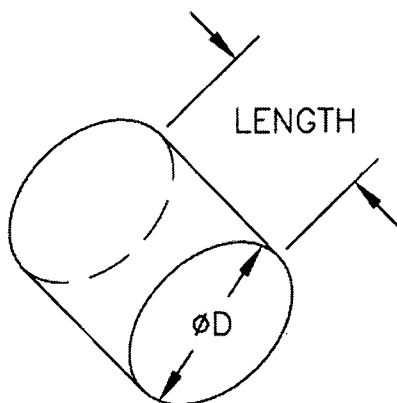


DESIGN E.T.	DRAWN BY 	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D6104	Rev. B SHEET 1 OF 1
DATE 02.11.25		TITLE ROUND BILLET, 17-4	SCALE NTS
A	01.04.10	NEW ISSUE	
B	02.11.25	CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS	

RELEASED

02.11.29

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 53752
C209/11/17

MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRC)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

Part No.	Alloy	D (Diameter)	Length
D6104-001	17-4 PH STAINLESS STEEL	Ø3.00	3.80
D6104-003	17-4 PH STAINLESS STEEL	Ø3.25	3.80
D6104-005	17-4 PH STAINLESS STEEL	Ø4.00	5.10
D6104-007	17-4 PH STAINLESS STEEL	Ø4.50	5.10
D6104-009	17-4 PH STAINLESS STEEL	Ø5.25	4.10
D6104-011	17-4 PH STAINLESS STEEL	Ø6.50	4.10

mf
09/12/01

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**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP

Page 1 of 1

Pack Slip No:8022337

Ship From: Castle Metals MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 26-NOV-09	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN	BOL No 137884-2	Delivery No 8022337	

Shipment Details	Final Destination Branch - MON
-------------------------	---------------------------------------

Order No 417080	Line No 3	Item No 14998.MO	Description 4.5000.RD.17CR-4NI.STAINLESS.RT.SOL TR.COND A.132.0000-156.0000 CUT TO 5.1 IN (+ .1250/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: AISI 630,AMS 2303,AMS 5643,ASME SA564,ASTM A564,UNS S17400			
Purchase Order No 10773		Part Number YOUR ITEM NUMBER: D6104-007	Ordered Qty 20 PCS	Invoice Qty 20 PCS	Backorder Qty	
Details						
Mill	Heat Number 246785	Mech Id	PCS 20	Width (IN)	Length (IN)	Shipped Qty (LBS) 472.85

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.	
We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.	
This material has been received and inspected by:	Date:

Handwritten signature and date: 09/12/01

**VALBRUNA****SLATER STAINLESS, INC.**
 2400 Taylor Street West, P.O. Box 630
 Fort Wayne, Indiana USA 46801
 Phone: 260-434-2892 Fax: 260-434-2905
Product Certification Report**Report Number: 4380931**

Certified on Jul 14, 2008 Page 1 of 2

Order I.D. 0801188 016		Order Date 4/22/08		Commodity Code 6304.5	
Dim 1 4.5000	Dim 2 .0000	Dim 3 .0000	Heat I.D. 246785	Customer I.D. 002472	Customer Purchase Order 22958
Product Shape Rounds			Product Surface HR & Rough Turned		Customer Grade 630
Length (Inches) 132.000 Min. 156.000 Max.			Bill of Lading # 408195	Weight	

Ship To
 VALBRUNA STAINLESS, INC
 370 VILLAGE DRIVE
 CAROL STREAM, IL. 60188
Sold To
 VALBRUNA STAINLESS, INC.
 370 VILLAGE DRIVE
 CAROL STREAM, IL 60188

01-22451

Lifts: 0018 0019

API 6A	AISI 17400	EN 10204 3.1B
UNS S17400	*AMS 2303E	AMS 5643R
ASTMA 564-04 Type 630	ASTM A484-00	ASMESA-564-02

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	N	Cb	Ta	Cb+Ta
.04	.54	.023	.021	.41	15.65	4.88	.22	3.32	.04	.22	.001	.22

HB

339

TENSILE PROPERTIES**CAPABILITY**

HB	TS (PSI)	.2%YS (PSI)	%EL(4d)	%RA	AGE(F)
412	198100	175800	19.3	53.4	900

MAGNETIC PARTICLE TEST

FREQ SEV

AVG .00 .00

PRODUCTION HEAT TREATMENT

SOL-ANN(F)	SOL-ANN(HR)	QUENCH
1900	9.50	Air

MACRO ASTM E340/E381

MACRO

OK

OK

OK

PERCENT FERRITE

% FERRITE

AVG .5

Reduction ratio 5 To 1 Min.

Electric Furnace melted; AOD refined.

Ultrasonic test OK.

*Certification revised at Valbruna by D. Hackett (7/28/09).

Chemical testing performed to one or several of the following ASTM methods: E415, E572, E1019, E1085, E1086.

No mercury or low melting alloy contamination. No weld repair.

Material melted in Italy, manufactured in the United States.

Results relate only to the items tested. Certification shall not be reproduced except in full, without written approval of Valbruna Stainless Inc. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal statutes, including Federal law, Title 18, Chapter 47. Consult material safety data sheet (MSDS) for hazard info.

I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services

Dennis Hackett

 CASTLE METALS CORP.
 DATE RCVD 11/29/09
 IAC 14098
 APPROVED BY [Signature]

**VALBRUNA**

SLATER STAINLESS, INC.
 2400 Taylor Street West, P.O. Box 630
 Fort Wayne, Indiana USA 46801
 Phone: 260-434-2892 Fax: 260-434-2905

Product Certification Report**Report Number: 4380931**

Certified on Jul 14, 2008 Page 2 of 2

Order I.D. 0801188 016		Order Date 4/22/08		Commodity Code 6304.5	
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Product Shape Rounds		Product Surface HR & Rough Turned			Customer Grade 630
Length (Inches) 132.000 Min. 156.000 Max.			Bill of Lading # 408195	Weight	

*Ship
To*

VALBRUNA STAINLESS, INC
 370 VILLAGE DRIVE
 CAROL STREAM, IL. 60188

*Sold
To*

VALBRUNA STAINLESS, INC.
 370 VILLAGE DRIVE
 CAROL STREAM, IL 60188

Material conforms to listed specifications.

Quality system is compliant with ISO 9001:2000. Produced in accordance with EN 10204 3.1B.

John
09/12/01

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